Inside Grease Trap/Interceptor and Outside Grease Trap/Interceptor Standards

CITY OF Savannah

Revised: May 16, 2009

INDEX

INTRODUCTION

Section 1, Part V, Item G of the current City of Savannah Combined Sewer Use and Pretreatment Ordinance (a copy of this document is provided in Section 8 of the City of Savannah Water and Wastewater Design and Policy Manual) states:

"Grease, oil, and sand interceptors shall be provided when, in the opinion of the Administrator, and/or the Chatham County Health Department, they are necessary for the proper handling of liquid wastes containing FOG (Fats, Oil, and Grease) or any flammable wastes, sand, or other harmful ingredients; except that such interceptors shall not be required for residential living quarters or dwelling units. All interceptors shall be located as to be readily and easily accessible for cleaning and inspection. Grease and oil separators shall conform to City of Savannah's Oil and Grease Interceptor Standards."

All interceptors shall be supplied, installed and properly and continuously maintained in a satisfactory and effective operational manner by the owner at his expense.

In addition, Section I, Part V, Item B1, prohibits any water or waste containing fats, wax, grease, or oils whether emulsified or not, in excess of 100 mg/L or containing substances which may solidify or become viscous at temperatures between thirty-two (32 degrees F) and one hundred fifty (150 degrees F.).

The purpose of this grease trap standard is to provide specific guidelines for grease trap location, design, installation, construction and maintenance in conjunction and compliance with the above requirements. Failure to comply with this standard shall be considered violations of applicable section of existing Combined Sewer Use and Pretreatment Ordinance and consequently will be subject to applicable penalties and/or denial or discontinuance of service as specified in Section III of the ordinance.

II. DEFINITIONS

The following are in addition to the definitions currently provided in the existing combined Sewer Use and Pretreatment Ordinance:

1. Food Service Establishment

Any commercial facility discharging kitchen or food preparation wastewaters including restaurants, motels, hotels, cafeterias, hospitals, schools, bars, etc. and any other facility which, in the administrator's opinion, would require a grease trap installation by virtue of its operation.

2. Outside Grease Trap/Interceptor

An outside grease trap/ interceptor is a large tank or vault installed outside the building that provides the most efficient way to remove grease and oils. Such interceptors can be Hydromechanical or Gravity Grease type design. The "outdoor" units shall be designed, installed and maintained in accordance to the Plumbing and Drainage Institute Standard PDI-G101.

3. Inside Grease Trap/Interceptor

Inside Grease trap/interceptor go inside the building near the sink and act as a holding facility for kitchen water before it is discharged into the side sewer. Such traps/interceptors are the "under-the-counter" or "in the floor" package units normally Hydromechanical type design. The "under-the-counter" or "in the floor" units shall be designed, installed and maintained in accordance to the Plumbing and Drainage Institute Standard PDI-G101.

4. Hydromechanical Grease Interceptor type design

Is a design type that incorporates air entrapment, the buoyancy of grease in water and hydro mechanical separation with interior baffling for grease, FOG (fats, oils and grease) separation. Hydromechanical Grease interceptors continuously separate the FOG (fats, oils and grease) at the velocity it enters the interceptor.

5. Gravity Grease Interceptor type design

Is a design type that incorporates two or more compartment in series, a minimum volume of 300 gallons and uses its larger volume of water to slow the velocity down allowing the time required for simply the buoyancy of grease, FOG (fats, oils and grease) in water to cause separation. That is why the physical size of the Gravity Grease interceptor is so much greater than the physical size of Hydromechanical Grease Interceptor.

III. GENERAL REQUIREMENTS

The following design, administrative, operational, and other requirements are applicable to all food service establishments, new or existing. Particular requirements for grease trap/interceptor construction, specifically pertaining to

both new and existing food service establishments, can be found in Section IV of this standard.

1. All food service establishments shall have grease-handling facilities approved by the City of Savannah's Water and Sewer Bureau. Establishments whose grease-handling facilities are not in accordance with this standard shall be given a compliance schedule with a deadline not to exceed three (3) months from initial notification date.

2. All food service establishment grease-handling facilities/operations shall be subject to periodic review, evaluations, and inspection by the City of Savannah's Water and Sewer Bureau representatives at any time. Results of inspections will be made available to facility owners, with overall ratings assigned and recommendations for correction/improvement (if necessary) delineated.

3. Any facility receiving three (3) consecutive unsatisfactory evaluations shall be subject to penalties/restrictions as provided for in the Use and Rate Resolution for noncompliance with the Resolution requirements.

4. Violations of this City of Savannah's Water and Sewer Bureau Grease Standard will be considered grounds for discontinuance of water and/or sewer service.

5. Food service establishments whose operations cause or allow excessive grease to discharge or accumulate in the sewer collection system are liable to the Water Reclamation Department for all costs related to Water Reclamation Department service calls for line blockages, line cleanings, line and pump repairs, etc. including all labor, materials, equipment, and overhead. Failure to pay all service-related charges may also be grounds for water/sewer service discontinuance.

6. (a) Maintenance contracts and/or records of grease removal frequencies for grease-handling facilities will be required at the discretion of the Water Reclamation Department to be submitted periodically to ensure routine and adequate system maintenance.

6. (b) In the maintaining of the grease interceptors, the owner(s) shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain on-site records of the dates, and means of disposal which are subject to review by the Water Reclamation Department. Any removal and hauling of the collected materials not performed by owner(s) personnel must be performed by currently licensed waste disposal firms.

7. Any food service establishment whose effluent is suspected or perceived by the Water Reclamation Department to contain a concentration of greater than 100 mg/l of oil and grease may be required to routinely sample their grease trap

effluent and have it analyzed by certified laboratory for oil and grease at the expense of the owner and furnish a copy of the analysis to the Water Reclamation Department.

8. All grease traps/interceptors shall be designed and installed in accordance with this standard to allow for complete access to inspection, maintenance, etc.

9. The plumbing fixtures required to discharge through the grease interceptor/trap are all floor drains, floor sinks, mop sinks, pot sinks, food prep sinks, **dishwashers without a pre-rinse sink,** and hub drains located in the kitchen and flush with the floor, and/ or any fixture or equipment that may allow grease or fats to be discharged into the plumbing system.

IV. CONSTRUCTION STANDARDS

A. New Facilities

1. All newly constructed food service establishments shall be required to install a grease interceptor, approved by the City of Savannah Water and Sewer Bureau.
2. All grease trap/interceptor plans and specifications including hydraulic calculations signed by a registered Civil Engineer must be reviewed and approved by the City of Savannah Water and Sewer Bureau prior to installation.

3. The construction and location criteria for grease trap/interceptors shall be in accordance with Environmental Protection Agency (EPA) Guidance Document, "On-site Wastewater Treatment and Disposal Systems," Section D. Typical construction detail drawings for acceptable grease traps are attached to this standard.

4. All grease trap/interceptors must be directly accessible from the surface and must be fitted with an extended outlet sanitary tee that terminates 6 inches - 12 inches above the tank floor. The minimum access opening dimensions shall be 18 inches x 18 inches.

5. Above criteria (1 - 4) apply primarily to outdoor-type grease interceptor units.

6. Maintenance of grease traps/interceptors must include thorough pump-out and/or cleaning as needed, with a minimum frequency of four (4) times per year. Maintenance contracts will be required to be submitted to the Water Reclamation Department as called for in Section III, Paragraph 6 of this standard. The owner, however, is ultimately responsible for the proper maintenance of the grease trap facility(s).

7. No new food service facility will be allowed to initiate operations until grease handling facilities are installed and approved by the City of Savannah Water and Sewer Bureau.

B. Existing Facilities

1. All existing food service establishments shall have grease-handling facilities approved by City of Savannah Water and Sewer Bureau. Food service establishments without any grease-handling facilities will be given a compliance deadline not to exceed three (3) months from date of notification to have approved and install grease-handling equipment in compliance with this standard. Failure to do so will be considered a violation of the existing Combined Sewer Use and Pretreatment Ordinance and will subject the establishment to penalties and/or service discontinuance.

2. (a) For cases in which "outdoor" type grease interceptors are infeasible to install, existing food service establishments will be required to install adequate and approved "under-the-counter" or "in the floor" grease traps for use on individual fixtures, including dishwashers, sinks, and other potentially grease-containing drains. In such cases, units will be considered acceptable only if approved flow control fittings are provided to the grease trap inlet to prevent overloading of the grease trap and to allow for proper interceptor operation.

In such cases as the above, the owner(s) will be notified of the existing system deficiencies and given a compliance deadline not to exceed three (3) months, to have approved and installed grease-handling facilities or appurtenances. City of Savannah Water and Sewer Bureau approval of flow control devices and grease trap design must be given prior to installation.

2. (b) For cases in which "outdoor" units are feasible to install, construction requirements will be as specified in Section IV (A) of this standard, i.e. New Facilities.

3. Sizing of "under-the-counter" or "in the floor" grease trap units will be in accordance with (Standard PDI-G101) recommended ratings for commercial grease traps. The grease retention capacity rating in pounds shall be at least two (2) times the GPM flow rate of the type fixture which it serves. Approved flow control fittings must be provided to the inlet side of all "under-the-counter" or "in the floor" units.

4. Location of "under-the-counter" or "in the floor" units must be as close to the source of the wastewater as physically possible.

5. Wastewater from garbage grinders should not be discharged to grease traps/interceptors.

6. In maintaining existing grease traps/interceptors, the owner(s) shall be responsible for the proper removal and disposal by appropriate means of the captured material and shall maintain records of the dates and means of disposal which are subject by the Water Reclamation Department.

7. In the event of an existing food service establishment's grease-handling facilities are either under-designed, substandard, or poorly operated; the owner(s) will be notified, in writing, of the required improvements and given a compliance deadline not to exceed three (3) months to conform to these requirements of this grease standard.

8. Any use of enzymes or other grease solvents, emulsifiers, grease consuming bacteria, etc. is prohibited and shall not be considered acceptable grease trap maintenance practice.

C. New Food Service Establishments in Existing Buildings

1. Where practical, new food service establishments located in existing buildings will be required to comply with the grease trap/interceptor standards applicable to new facilities, i.e., outdoor-type grease interceptor units shall be installed. (Section IV (A))

2. Where physically impossible to install "outdoor" units, "under-the-counter" units may be allowed as with existing food service establishments provided prior approval of unit type, size, location, etc is approved by the Water and Sewer Bureau Water Reclamation Department. Flow control fittings and/or automatically-cleaned units will be required in all cases. Maintenance contracts and/or cleanouts records will also be required (Section IV, (B), Numbers 3 thru 8).

D. Sizing grease trap/interceptors

1. **Sizing Method Based on Pipe Diameter Size and Slope**
When the final configuration of fixtures in a facility is not known or to allow for additional fixtures in the future, this method shall be used or to size the interceptor for the maximum flow that the drain from the facility can carry.

Pipe Size (inches)	Full Pipe Flow @ ¼ slope	Interceptor size 1 minute drain	Interceptor size 2 minute drain
2"	19.44 gpm	20 gpm	10 gpm
3"	58.68 gpm	75 gpm	35 gpm
4"	125.77 gpm	-	75 gpm

2. Procedure for Sizing Hydromechanical Grease Interceptors

Table 1 is provided to show the standard formula in steps for sizing grease interceptors to suit requirements of specific fixtures. An example of this sizing formula application is included to illustrate the steps.

Table 1
Procedure for Sizing Grease Interceptors

Steps	Formula	Example
1	Determine cubic content of fixture. Multiply length x width x depth.	A sink 48" long by 24" wide by 12" Deep. **Cubic content** 48 x 24 x 12 = 13,824 cubic inches.
2	Determine capacity in gallons. 1 gal. = 231 cubic inches.	**Contents in gallons**. $\frac{13,824}{231}$ = 59.8 gallons
3	Determine actual drainage load. The fixture is normally filled to about 75% of capacity with water. The items being washed displace about 25% of the fixture content, thus actual drainage load = 75% of fixture capacity.	**Actual drainage load** .75 X 59.8 = 44.9 gallons.
4	Determine flow rate and drainage period. In general, good practice dictates a 1 minute drainage period: however, where conditions permit, a 2 minute drainage period is acceptable. Drainage period is the actual time required to completely drain the fixture. Flow rate = $\frac{\text{Actual Drainage Load}}{\text{Drainage Period}}$	**Calculate flow rate** **for** 1-minute period: $\frac{44.9}{1}$ = 44.9 GPM Flow Rate **for** 2-minute period: $\frac{44.9}{2}$ = 22.5 GPM Flow Rate
5	Select Interceptor. From Table 1 select Interceptor which	**Select Interceptor.** **for** 1-minute period –

	Corresponds to the flow rate calculated. Note: Select next larger size when flow rate falls between two sized listed.	44.9 GPM requires PDI size 50. **For** 2-minute period – 22.5 GPM requires PDI size 25.

Table 2

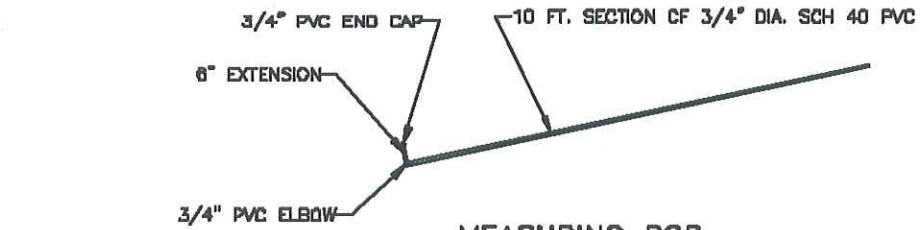
PDI Size Symbol	4	7	10	15	20	25	35	50	75	100
Flow Rate GPM	4	7	10	15	20	25	35	50	75	100
L/min	15	26	38	57	77	95	132	191	230	378
Grease Capacity Pounds	8	14	20	30	40	50	70	100	150	200
Kg	3.6	6.4	9.1	13.8	18.2	22.7	31.8	45.4	68	90.8

3. Procedure for Sizing Gravity Grease Interceptors

Multiply the maximum flow in gallons per minute by a detention time, 30 minutes (the time period normally excepted for the grease to separate by buoyancy).

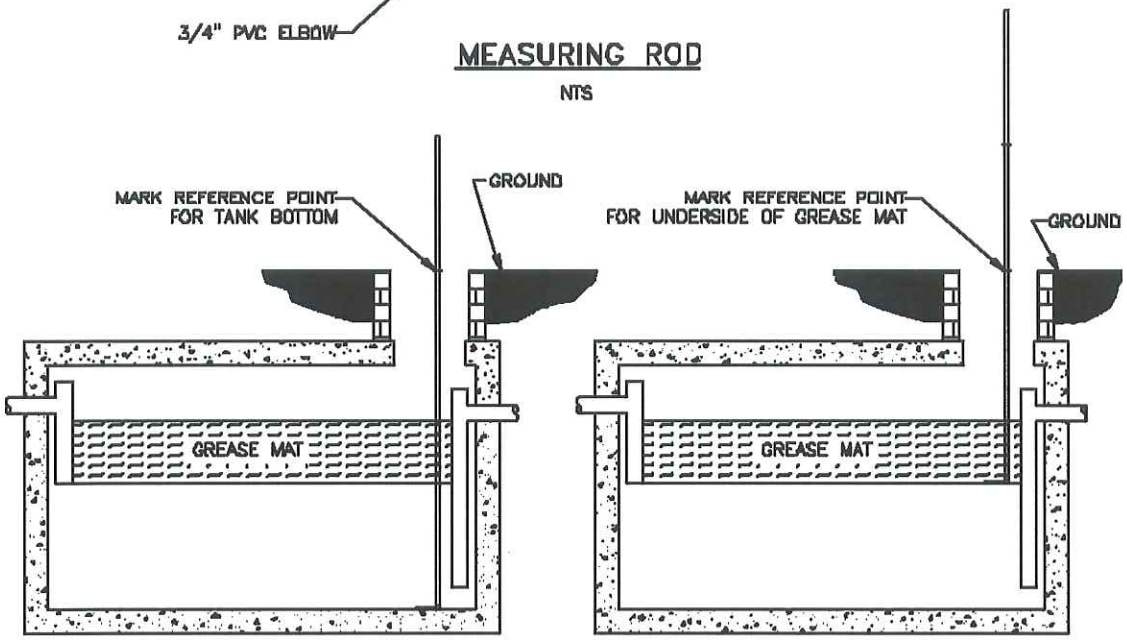
V. ENFORCEMENT

Enforcement of this standard shall be in accordance with the provisions of the most current City of Savannah's Combined Sewer Use and Pretreatment Ordinance. Failure to comply with this standard may be grounds for penalty imposition and/or discontinuance of service. Additionally, failure to comply may result in notification to the County Health Department for request of enforcement of enforcement action which may lead to revocation of food service permits.



MEASURING ROD

NTS

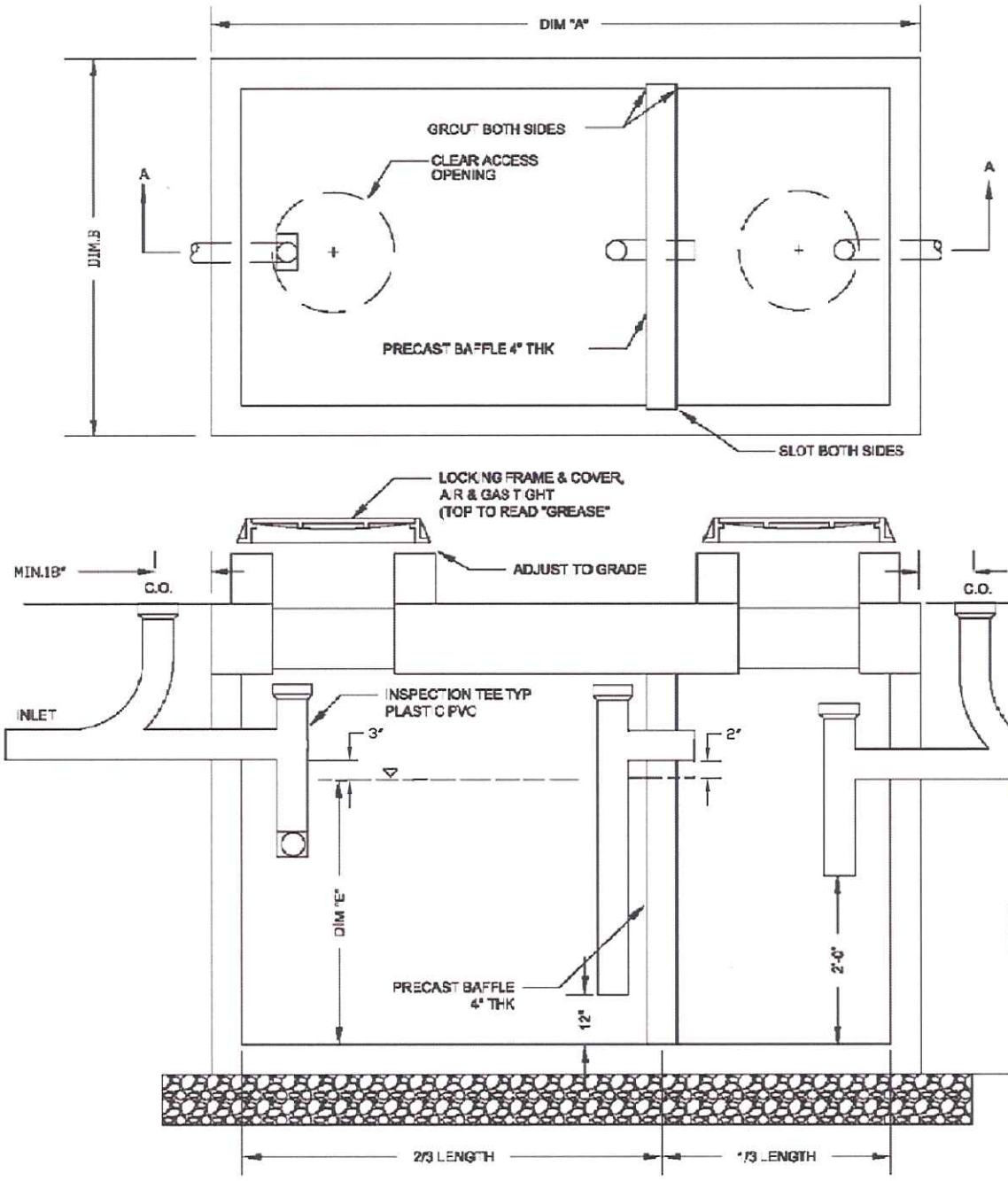


GREASE TRAP SECTION

NTS

MEASURING TECHNIQUE

1. REMOVE ACCESS OPENING AND PUSH MEASURING ROD THROUGH GREASE MAT UNTIL CONTACT IS MADE WITH TANK BOTTOM.
2. MARK A REFERENCE POINT ON MEASURING ROD TO INDICATE LEVEL OF TANK BOTTOM.
3. ROTATE MEASURING ROD 1/4 TURN AND SLOWLY RAISE UNTIL CONTACT IS MADE WITH UNDERSIDE OF GREASE MAT.
4. MARK A REFERENCE POINT ON MEASURING ROD TO INDICATE LEVEL OF GREASE MAT UNDERSIDE.
5. MEASURE DISTANCE BETWEEN TWO REFERENCE POINTS. THIS INDICATES THE DISTANCE OF THE GREASE MAT ABOVE THE TANK BOTTOM.
6. IF IT IS DETERMINED THAT THE GREASE MAT HAS ACCUMULATED TO WITHIN 2 FT. OF THE TANK BOTTOM, THEN THE OWNER/MANAGER SHALL REQUIRED TO THOROUGHLY REMOVE THE GREASE FROM THE TANK(S).
7. IF IT IS IMPOSSIBLE TO PENETRATE THE GREASE MAT AS SPECIFIED IN ITEM 1, THEN THE OWNER/MANAGER SHALL BE REQUIRED TO THOROUGHLY REMOVE THE GREASE FROM THE TANK(S).



SIZING CHART					
GALLON CAPACITY	DIM "A"	DIM "B"	DIM "C"	DIM "D"	DIM "E"
600	7'-0"	4'-8"	7'-0"	3'-6"	3'-2"
750	7'-0"	4'-8"	7'-0"	4'-3"	3'-11"
1000	7'-0"	5'-0"	7'-2"	4'-4"	3'-10"
1250	9'-0"	5'-0"	7'-2"	4'-2"	4'-10"
1500	9'-0"	5'-8"	7'-2"	5'-2"	4'-0"
1750	11'-2"	5'-8"	7'-2"	4'-4"	4'-7"
2000	11'-2"	6'-8"	8'-0"	5'-11"	3'-10"
2500	12'-8"	6'-6"	8'-0"	4'-7"	4'-9"
2750	12'-8"	6'-6"	8'-0"	5'-6"	5'-3"
3000	15'-7"	9'-7"	8'-6.5"	6'-0"	3'-9"
4000	15'-7"	9'-7"	8'-6.5"	6'-3"	5'-0"
5000	19'-11"	9'-11"	8'-11"	6'-2"	4'-9"
6000	19'-11"	9'-11"	10'-5"	7'-2"	5'-9"

NOTES:

1. CONCRETE: 28 DAY f'c = 4500 psi
2. REBAR: ASTM A615 GRADE 60
3. MESH: ASTM A 185 GRADE 65
4. DESIGN: AC 318.83 BUILDING CODE ASTM C.857 MINIMUM STRUCTURAL DESIGN LOADING FOR UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURES
5. LOADS: H-20 TRUCK WHEEL w/30% IMPACT PER AASHTO
6. FILL w/CLEAN WATER PRIOR TO START UP OF SYSTEM
7. CONTRACTOR TO SUPPLY & INSTALL ALL PIPING AND SANITARY TEEs. 4 CLEAN OUTS, FOR CLEANING TOWARD TRAP AND FOR CLEANING AWAY FROM TRAP ON BOTH THE INLET AND OUTLET / ALT. DUAL SWEEP CLEAN OUTS
8. GREY WATER ONLY, BLACK WATER SHALL BE CARRIED

Water and Sewer Planning Department
Post Office Box 1027
Savannah, Georgia 31402

APPLICATION TO INSTALL GREASE INTERCEPTOR

Name of applicant/restaurant owner:

Phone # & address of
applicant/owner_____

Name of restaurant:

Phone # & address of
restaurant:_____

Size of restaurant (# of seats, ft.2):

Former use of premises (if not new):

SIZE/NUMBER OF KITCHEN UNITS TO BE SERVED

Size/Number	Type of Unit	Size/Number	Type of Unit
_____	Single compartment scullery sink	_____	Double compartment scullery sink
_____	Dishwater capacity (gallons	_____	Other(s), list below
_____	Three-compartment scullery sink	_____	_____
_____	Hand sink	_____	_____

If unfeasible to install underground units, state why:

Other comments:

I certify that the above information is correct to the best of my knowledge.

Date_____ _____
(Signature)

City of Savannah Water and Sewer Bureau
Water and Sewer Planning Department
Post Office Box 1027
Savannah, Georgia 31402

GREASE INTERCEPTOR MAINTENANCE RECORD

NAME OF RESTAURANT:					
BUSINESS ADDRESS:					
BUSINESS PHONE NO:					
OWNER'S NAME:					
TRAP #	LOCATION	INSPECTION DATE	DATE OF GREASE REMOVAL	DISPOSAL METHOD	INTIAL OF OPER.
COMMENT					

CITY OF savannah

A Guide to Grease Management

Table of Contents

1400 EAST PRESIDENT STREET, SAVANNAH, GA 31404
PHONE 912.651.6620 FAX 912.651.6621 SAVANNAHGA.GOV

Purpose:

The purpose of this reference guide is to provide information and guidance on grease reduction to restaurant owners in order to help them establish an effective grease management program. In the City of Savannah, there is an average of 25 sewer blockages per month, many the results of grease blockages. The United States Environmental Protection Agency has mandated that cities create a program whereby non-residential facilities will be monitored for grease discharge through a permit program.

Grease is singled out for special attention because of its poor solubility in water and its tendency to separate from the liquid solution. Large amounts of oil and grease in the wastewater cause trouble in the collection system pipes and hamper effective treatment at the wastewater treatment plant. Problems caused by wastes from restaurants and other grease-producing establishments have served as the basis for ordinances and regulations governing the discharge of grease materials to the sanitary sewer system. This type of waste has forced the requirement of the installation of preliminary treatment facilities, commonly known as grease traps or interceptors.

Implementation of a Grease Reduction Program: **Properly maintained equipment to prevent introduction into the Sanitary Sewer System.**

There are many ways to cut down on grease output and avoid costly maintenance and fines. All pretreatment methods require a commitment to maintenance and, in most cases, a change in kitchen management policies. If a restaurant owner installs a pretreatment device, remember that extremely hot water and solvents defeat the purpose of the device. Such conditions will retain the grease suspended in the gray water. Following is a list of pretreatment methods designed to reduce grease output.

• **Recycle grease and oils when possible**. When using deep fat fryers, or processes that generate large amounts of plant or animal by-products, separate the oils and fats from the all food products. Recycle the fat and food products through one of the area grease rendering companies or food recyclers. If food recycling is not an option, dispose of food products in sealed containers with your solid waste.

• **Avoid using the food disposal**. Disposals and food grinders are ineffective for your system because they allow grease and food to leave your system ground up and suspended in liquid. These by-products drop out and adhere to the walls of the pipe, fill up the pretreatment devices, and create a potential backup or overflow in the sewer lines.

• **Use Water less than 140 degrees F in all Sinks.** High temperatures will dissolve grease temporarily, but allow it to congeal or solidify in the sanitary sewer collection system as the water cools.

• **Install grease traps.** These go inside the building near the sink and act as a holding facility for kitchen water before it is discharged into the side sewer. Grease traps usually require constant cleaning (every day for many businesses), but when sized and properly maintained, they effectively remove grease from kitchen wastewater.

• **Install a grease interceptor**. A grease interceptor is a large tank or vault (usually 750 gallons or larger) installed outside the building that provides the most efficient way to remove grease and oils. However, it requires routine maintenance. The amount of maintenance depends on how often the interceptor/trap is in use. All Grease interceptors must be properly sized in accordance with guidelines form the Plumbing and Drainage Institute Standard (PDI-G101). All Grease traps should be sized in accordance with International Plumbing Code (IPC). Both grease interceptors and grease traps must be sized, constructed and installed in accordance with city standards.

• **Use of bacteria (bugs).** The direct addition of any enzyme, chemical, or microbial agent to a grease trap is prohibited. Such agents impede the grease separation process and defeat the purpose of the trap.

• **Grease removal devices**. Several types of skimmers or dippers can mechanically remove grease from kitchen wastewater. They should be emptied and cleaned regularly.

Education and Housekeeping: Preventing Blockages in the Sanitary Sewer System starts in-house.

Good housekeeping is an important step in a successful grease reduction program. Grease prevention procedures must be part of the standard training of new employees. Following are tips to help eliminate grease before it becomes a problem:

• **Recycle Unprepared Food Waste:** Recycling is the preferred method of disposing of significant volumes of food waste. Most recycling companies provide rendering barrels or food waste barrels. Small quantities of food can be disposed in the solid waste if it is in a plastic bag or container.

• **Deep Fat Fryer:** Put waste grease in a container then pour it into the rendering barrel for recycling. Wipe the fryer down with paper towels and dispose of them with solid waste. Wash out the remaining minimal amounts of grease.

• **Grill and Roaster/Broiler:** Empty drip pans into the rendering container and wipe everything down with paper towels. Any remaining grease can be washed thoroughly.

• **Gravy and Sauce:** Wipe greased pans and dishes prior to washing, and pour leftover material into the rendering container. Residues should go out with the solid waste.

• **Frosting Containers:** Pre-scrape containers and wipe them with paper towels. Attempt to recycle or reuse large quantities and dispose of small quantities in the solid waste.

• **Butter and Butter by-products:** Pre-scrape utensils and containers prior to washing and dispose of non-recyclable materials in the solid waste.

• **Meat Scraps and Trimmings:** Wipe meat processing equipment clean with a paper towel prior to cleaning and put meat trimmings into the rendering container. Recycle floor sweepings or put them in the solid waste.

• **Keep Sink Strainers in place:** The best way to stop backups is to eliminate the source. Small food particles should be cleaned often from sink strainers and disposed of as solid waste.

• **Maintain Traps and Interceptors:** Small kitchen-sized grease traps should be cleaned at least *weekly*, sometimes more often. This can be done in-house, usually after hours, by kitchen staff. Larger vault-sized interceptors must be cleaned at a minimum of every ninety (90) days, or at a greater frequency, depending on the amount of grease accumulated.

Discharge Prevention: Reducing the risk of fats, oil, and grease entering creeks and streams through the Storm Drain System.

The prevention of grease discharge requires diligence in adhering to a grease reduction program. Not only is grease in the sanitary sewer system a preventable problem, but the infiltration into creeks and streams through the storm drain system is as well. Following is a list of procedures to implement to reduce grease discharge:

• **Witness all Cleaning/Maintenance Activities:** Grease haulers may take shortcuts, so it is up to the restaurant owner/manager to ensure that traps have been pumped to the bottom of the tank.

• **Clean Under Sink Traps Weekly:** Weekly cleaning of under sink grease traps (fifty pounds or less) by the establishment's own maintenance staff will reduce the cost of cleaning the grease interceptor by extending the length of time required between professional cleanings.

• **Cover Outdoor Grease Storage Containers:** Uncovered grease and oil storage containers can collect rainwater and overflow allowing grease to reach the storm water system. Discharge into the storm drain system could result in legal penalties or harsh fines.

• **Locate Grease Dumpsters Away from Drains:** The farther away from the catch basin, the more time someone has to clean up spills before they enter the storm drain system.

• **Routinely Clean Kitchen Exhaust Systems:** Grease and oil that escapes through the kitchen exhaust system can accumulate on the roof of the establishment and eventually enter the storm drain system. If safely accessible, inspect roof for signs of oil and grease buildup.

Choosing a Sewer Contractor:

If recurring problems exist, the contractor may be part of the problem. Find a contractor with a proactive treatment program that will work to solve problems and reduce maintenance cost. The following are some of the things a good contractor should offer:

• **Education:** The contractor should work with the kitchen staff to identify sources of grease and look for ways of eliminating them. They should also instruct the kitchen staff on proper grease handling practices.

• **Maintenance:** A full service contractor should set up a maintenance schedule and log book for any existing pre-treatment device, and assign the duties of regular cleaning to kitchen personnel. In the case of large separators, the contractor may inquire as to the maintenance schedule, and make recommendations for adjusting the cycle of cleaning if the grease buildup persists. The owner should receive a copy of the Commercial Waste Manifest form (*See Page15*). Remember, the business owner is responsible for its grease discharge.

• **Follow Up:** The contractor should check back periodically to ensure the implemented grease program is still working. This includes checking the interceptor, log books, and talking with the kitchen staff. A good contractor should provide a well planned program that will reduce the amount of jetting required to maintain a clear line, which will reduce annual maintenance costs.

Local FOG Transporters

Name	Address	Telephone
Allen's	225 J.C. Cannady Road, Statesboro, GA 30459	912.764.9975
Atlantic Industrial Services, Inc.	244 P.R. Anders Lane, Whigham, GA 39378	229.762.3550
Darling International	4505 Keith Bridge Road, Cumming, GA 30041	800.903.4312
Digs Septic	4637 Hwy 17 North, Guyton, GA 31321	912.772.3194
Oreogin Inc.	88 Homespun Road, Odum, GA 31555	912.572.3373
Roto-Rooter	2016 East Broad Street, Savannah, GA 31401	912.355.1287
Savannah Septic	2 Gilbert Avenue, Savannah, GA 31408	912.748.0962
Smith Septic Service	127 Jesup Road, Pooler, GA 31322	912.964.6285
Valley Protein	PO Box 14246, Savannah, GA 31416	888.487.9462

The businesses listed below provide grease pick up, delivery to and rendering of restaurant grease for disposal. This list is not intended to be inclusive of all contractors available and is being provided as an example of contractors who, as of this printing, are available to provide these services. This Bureau makes no recommendations regarding specific businesses that perform grease management services.

Georgia FOG Treatment Facilities

Name	City	Phone	Yellow Grease	Brown Grease
American Proteins	Kennesaw	800.903.4312	X	
American Proteins/Mercer	Lizella	800.903.4312	X	
Darling International	Smyrna	404.605.0050		X
Disposal Solutions LLC	Lawrenceville	770.237.9868		X
Environmental Waste Recovery	Acworth	770.917.0377		X
Griffin Industries	Ellenwood	404.363.1320	X	X
Griffin Industries	Dublin	478.272.7340	X	X
Hamby's Commerical Waste	Hiram	770.439.1448		X
Odum Services	Odum	912.586.2242	X	
PSC (Allwaste)	Fairburn	770.969.7886		X
Southern Waste Services	Hinesville	912.368.7858	X	

Note: It is prudent to obtain at least three bids. This is a competitive field and it is often possible to realize substantial savings by soliciting competitive bids. Once you have chosen a contractor be sure and obtain the necessary permits to do the work you desire. If restaurant owner or contractor has any problems please contact the Water Reclamation Department Grease Abatement and Inspections Program for more information at (912) 651-6620.

Spill Prevention and Cleanup:

- Store and transport liquids in containers with tight-fitting lids
- Regularly inspect containers for leaks
- Develop, implement, and post an emergency spill prevention plan
- Keep emergency spill containment and cleanup kits nearby
- Train all employees about the plan and kit
- Clean up all spills properly and immediately

Spill Contact Directory (Example):

- City of Savannah, Water Reclamation Dept., Services Management 912.651.6620
- City of Savannah, Conveyance and Distribution Dept., Sewer Maintenance 912.351.3898
- City of Savannah, Water Reclamation Dept., Pretreatment Section 912.651.6620 x1566, Environmental Compliance and Inspections Section 912.651.6620 x1551
- City of Savannah, Stormwater Management, Engineer 912.650.7855
- CEMA Emergency Management Director 912.201.4500
- Chatham County Health Department 912.356.2160
- City of Savannah 311 Call Center; 912.651.3434 after hours

Appendices

Frequently Asked Questions:

Is grease a problem?

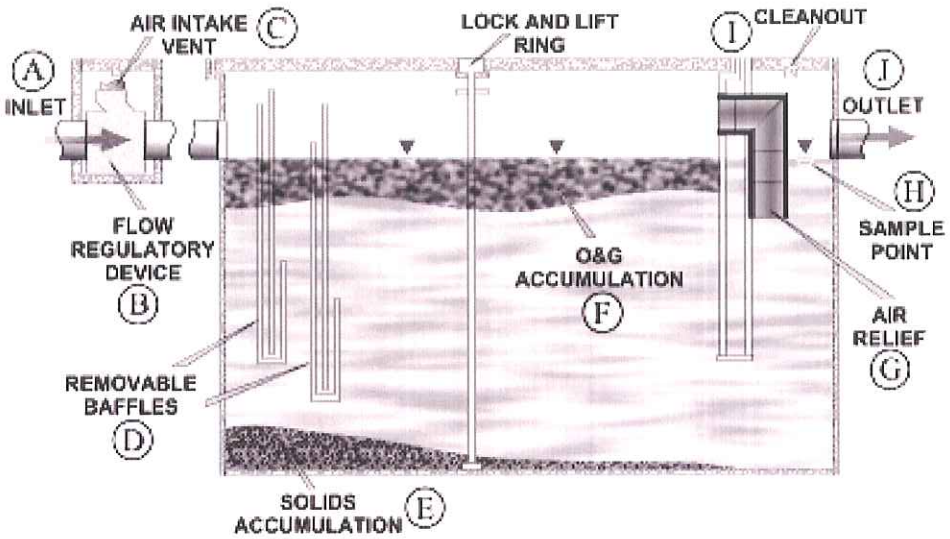
In the sewage collection and treatment business, the answer is an emphatic YES! Grease is singled out for special attention because of its poor solubility in water and its tendency to separate from the liquid solution. Large amounts of oil and grease in the wastewater cause trouble in the collection system pipes. It decreases pipe capacity and, therefore, requires that piping systems be cleaned more often and/or some piping to be replaced sooner than otherwise expected. Oil and grease also hamper effective treatment at the wastewater treatment plant. Grease in a warm liquid may not appear harmful. But, as the liquid cools, the grease or fat congeals and causes nauseous mats on the surface of settling tanks, digesters, and the interior of pipes and other surfaces which may cause a shutdown of wastewater treatment units. Problems caused by wastes from restaurants and other grease-producing establishments have served as the basis for ordinances and regulations governing the discharge of grease materials to the sanitary sewer system. This type of waste has forced the requirement of the installation of preliminary treatment facilities, commonly known as grease traps or interceptors.

What is a grease trap and how does it work?

A trap is a small reservoir built into the wastewater piping a short distance from the grease producing area. Baffles in the reservoir retain the wastewater long enough for the grease to congeal and rise to the surface. The grease can then be removed and disposed properly. See the "*How It Works*" section below for a description of how the various components of grease trap function.

"How It Works"

1. The function of Grease Traps:

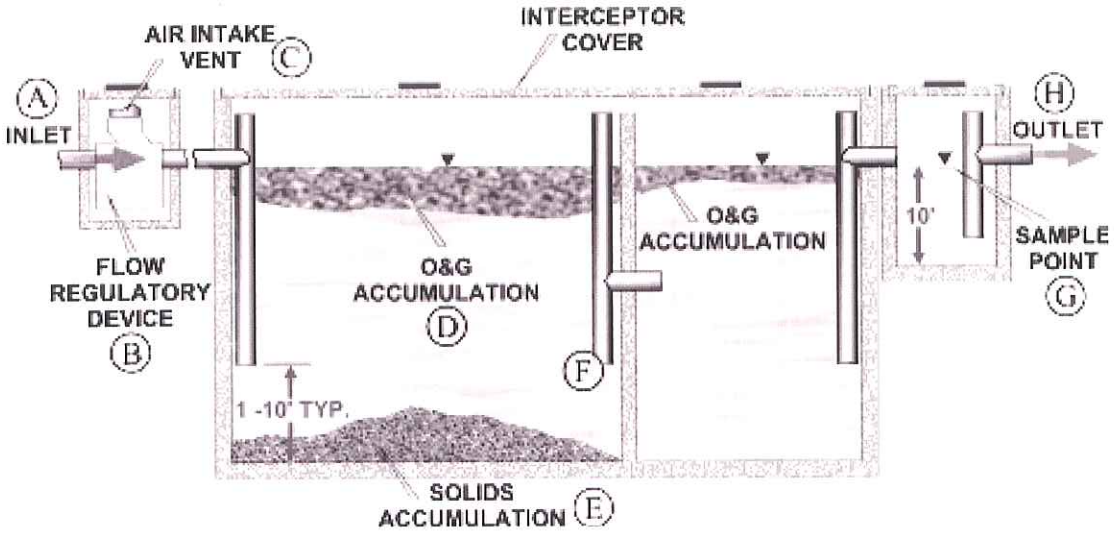


A.	Flow from four or fewer kitchen fixtures enters the grease trap.
B.	An approved flow control restricting device must be installed to restrict the flow to the grease trap to the rated capacity of the trap.
C.	An air intake valve allows air into the open space of the grease trap to prevent siphonage and back pressure.
D.	The baffles help to retain grease toward the upstream end of the grease trap since grease floats and will generally not go under the baffle. This helps to prevent grease from leaving the grease trap and moving further downstream where it can cause blockage problems.
E.	Solids in the wastewater that do not float will be deposited on the bottom of the grease trap and will need to be removed during routine grease trap cleaning.
F.	Oil and grease floats on the water surface and accumulates behind the baffles. The oil and grease will be removed during routine grease trap cleaning.
G.	Air relief is provided to maintain proper air circulation within the grease trap.
H.	Some grease traps have a sample point at the outlet end of the trap to sample the quality of the grease trap effluent.
I.	A cleanout is provided at the outlet or just downstream of the outlet to provide access into the pipe to remove any blockages.
J.	The water exits the grease trap through the outlet pipe and continues on to the grease interceptor or to the sanitary sewer system, depending on rate of flow and grease retention capacity of grease trap.

What is a grease interceptor and how does it work?

An interceptor is a vault with a minimum capacity of between 500 and 750 gallons that is located on the exterior of the building. The vault includes a minimum of two compartments, and flow between each compartment is through a 90 degree fitting designed for grease retention. The capacity of the interceptor provides adequate residence time so that the wastewater has time to cool, allowing any remaining grease not collected by the traps time to congeal and rise to the surface where it accumulates until the interceptor is cleaned. See the "*How It Works*" section for a description of how the various components of a grease interceptor function.

2. The Function of Grease Interceptors:



A.	Flow from under sink grease traps or directly from plumbing fixtures, enters the grease interceptor. The Plumbing and Drainage Institute Standard PDI-G101 requires that all flow entering the interceptor must enter through the inlet pipe.
B.	Verify with current city sewer use ordinances on flow regulating device requirements.
C.	An air intake valve allows air into the open space of the grease interceptor to prevent siphonage and back pressure.
D.	Oil and grease floats on the water surface and accumulates behind the grease retaining fittings and the wall separating the compartments. The oil and grease will be removed during routine grease interceptor cleaning.
E.	Solids in the wastewater that do not float will be deposited on the bottom of the grease interceptor and will need to be removed during routine grease interceptor cleaning.

F.	Grease retaining fittings extend down into the water to within 12 inches of the bottom of the interceptor. Because grease floats, it generally does not enter the fitting and is not carried into the next compartment. The fittings also extend above the water surface to provide air relief.
G.	Some interceptors have a sample box so that inspectors and employees of the establishment can periodically take effluent samples. Having a sample box is recommended by city standards.
H.	Flow exits the interceptor through the outlet pipe and continues on to the sanitary sewer system.

Do I need a grease trap or interceptor?

Any establishment that introduces grease or oil into the sewage system in quantities large enough to cause line blockages or hinder sewage treatment is required to install a grease trap or interceptor. Grease interceptors are usually required for high volume restaurants (full menu establishments serving more than 40 meals per peak hour) and large commercial establishments such as hotels, hospitals, factories, or school kitchens. Grease traps are required for small volume (fast food or take-out restaurants with limited menus, minimum dishwashing, and/or minimal seating capacity) and medium volume (full menu establishments operating 8-16 hrs/day and/or serving less than 40 meals per peak hour) establishments. Medium volume establishments may be required to install an interceptor depending upon the size of the establishment.

Do I have a grease trap or interceptor?

If the establishment is uncertain whether it has a grease trap or interceptor, the owner should contact the City of Savannah, Water Reclamation Department at 651-6620.

Is the grease trap I have adequate?

The International Plumbing Code requires that no grease trap have a capacity less than 20 gallons per minute (gpm) or more than 55 gpm, which conforms to PDI-G101 standards. The size of the trap depends upon the number of fixtures connected to it. The following table provides criteria for sizing grease traps:

Total number of fixtures connected	Required rate of flow, gpm	Grease retention capacity, lbs
1	20	40
2	25	50
3	35	70
4	50	100

Can you recommend a maintenance schedule?

Some establishments will find it necessary to clean their traps more often than once each week. If the establishment has to clean it too often, the owner should evaluate the effectiveness of food and grease handling practices. The owner also should consider installing a larger trap or interceptor. All grease interceptors must be cleaned (at a minimum) ***every three months***. If a grease trap is not maintained regularly it will not provide the necessary grease removal. The practice of running extremely *hot* water down the drain only moves the problem down stream. It does not go away. The key is to catch the grease at the source. This is the most economical means to reduce all costs. (*See Page 14, Grease Interceptor Maintenance Record*)

What if I don't install a grease trap?

If the establishment uses grease and oil in food preparation, it will eventually encounter a maintenance problem with a plugged building sewer line or lateral. The blockage can create a sewer main backup situation and ultimately cause a potential health problem in the establishment. Owners will have to pay for removing the blockage. If the problem is in the building sewer line, then the owner of the establishment has direct responsibility for maintenance cost. If the blockage or restriction is in the public sewer main and it can be proven that the establishment is the cause of the blockage, then the establishment may incur maintenance cost for the public sewer main. Blocking a sanitary sewer line is also a violation of the federal Clean Water Act.

Who determines if I need a grease trap or interceptor?

The City of Savannah's Sewer Use and Pretreatment Ordinance requires an approved grease trap or interceptor must be installed in accordance with the Plumbing and Drainage Institute and technical support provided by Water and Sewer Planning and Engineering.

How can I get in compliance? Contact Water and Sewer Planning at 651-6573.

What are the criteria for inspecting grease traps?

All food service establishments tied into the city's collection system and treatment facilities will be inspected by Water Reclamation Inspectors. The following criteria are used as a guide to inspect grease traps:

Percent of Oil and Grease Accumulation	Interceptor/Trap Condition
<25	Good
25 - 50	Fair
>50	Poor

If the trap is in **"FAIR"** condition, the establishment will be advised to keep an eye on the maintenance schedule and increase the cleaning frequency. The representative for the establishment will be further advised to contact the service provider to schedule a date and time to thoroughly pump and clean out the tank in order to reassure the inspector that corrective action is being taken in a prompt and efficient manner. If the trap is in **"POOR"** condition, the establishment may be issued a ***compliance order*** to have it cleaned immediately. The establishment must contact the local governing authority within ***five*** (***5) business days*** to verify that the grease trap has been properly cleaned.

Resources:

NOTE: Always respect copyrights when reprinting original material.

Stormwater Journal….http://www.forester.net/sw.html
EPA-NPDES regulations….http://www.epa.gov/OWM/mtb/spillprv.pdf
Green Plan for The Food Service Industry….www.p2pays.org/food/main/oil.htm
Georgia Department of Natural
Resources….http://www.p2ad.org/Assets/Documents/ci_fog.html
Georgia Department of Natural
Resources….http://www.p2ad.org/Assets/Documents/ci_pubs_fog.htm
North Carolina FOG poster….http://www.p2pays.org/ref/13/12327.pdf
North Carolina FOG poster (Spanish version)….http://www.p2pays.org/ref/13/12311.pdf

CITY OF savannah
WATER RECLAMATION

Grease Interceptor Maintenance Record

Name of Establishment:					
Business Address:					
Business Phone Number:					
Owner's Name:					
Trap #	Location	Inspection Date	Date of Grease Removal	Disposal Method	Initial of Operator
Comments:					

1400 EAST PRESIDENT STREET, SAVANNAH, GA 31404
PHONE 912.651.6620 FAX 912.651.6621 SAVANNAHGA.GOV

CITY OF savannah
WATER RECLAMATION

Commercial Waste Manifest

ORIGINATOR INFORMATION

Originator Name _____ Contact Name _____

Address _____ Phone (_____)_____

City, State _____ Zip _____ County _____

Customer # _____

Type of Trap: ☐ Grease Interceptor ☐ Oil/Water Separator ☐ Grit/Sand Trap ☐ Outside ☐ Inside

☐ Other: _____ Trap Condition: _____

Tank: #1 _____ gallons Tank: #2 _____ gallons Service Frequency _____ Weeks

Tank: #3 _____ gallons Tank: #4 _____ gallons

Generator Certifications: I hereby certify that the wastes listed under this consignment are not hazardous, as defined in regulations promulgated by the State of Georgia, Dept. of Natural Resources, and that the type wastes and quantity indicated are fully accurate.

Originator Name (Printed)	Signature	Date	Time

TRANSPORTER INFORMATION

Company _____ Driver Name _____

Address _____ Phone (_____)_____

City, State _____ Zip _____

FOG Permit #: _____ Truck #: _____

Transporter Certification: I hereby acknowledge receipt of the above listed waste and will transport and dispose of it in accordance with all applicable laws.

Driver Name (Printed)	Signature	Date	Time

RECEIVER/DISPOSAL INFORMATION

Disposal Name _____ Contact Name _____

Address _____ Phone (_____)_____

City, State _____ Zip _____ County _____

EPD Approval/Permit # _____ NPDES # _____ LAS # _____

Solid Waste Handling # _____ Industrial Pretreatment Permit # _____

Total Quantity Received Gallons _____

Certification of Receipt: The above waste was received by this facility within the authorized property boundaries and will be processed, disposed of, or recycled in accordance with all applicable laws.

Disposal Name (Printed)	Signature	Date	Time